

Sandridge Energy, INC.(mid-con.)

Comanche County (KS27S)

Sec 12-T34S-R20W

Anita 3420 2-12H/ Job #04186-431-22/ Lariat 41

Wellbore #1

Design: Wellbore #1

Standard Survey Report

24 April, 2013

Archer Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Local Co-ordinate Reference: Well Anita 3420 2-12H/ Job #04186-431-22/ Lariat 41
Project: Comanche County (KS27S)	TVD Reference: WELL @ 1813.0usft (Original Well Elev)
Site: Sec 12-T34S-R20W	MD Reference: WELL @ 1813.0usft (Original Well Elev)
Well: Anita 3420 2-12H/ Job #04186-431-22/ Lariat 41	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: EDM 5000.1 Single User Db

Project Comanche County (KS27S), KS South		
Map System: US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)		
Map Zone: Kansas South 1502		

Site Sec 12-T34S-R20W			
Site Position:	Northing: 155,889.00 usft	Latitude:	37° 5' 27.255 N
From: Map	Easting: 1,722,504.00 usft	Longitude:	99° 27' 4.726 W
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence:	-0.58 °

Well Anita 3420 2-12H/ Job #04186-431-22/ Lariat 41			
Well Position	+N/-S 0.0 usft	Northing: 160,871.00 usft	Latitude: 37° 6' 16.974 N
	+E/-W 0.0 usft	Easting: 1,727,143.00 usft	Longitude: 99° 26' 8.095 W
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 1,795.0 usft

Wellbore Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2013/04/05	5.37	65.05	51,668

Design Wellbore #1					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth:	0.0		
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	179.63	

Survey Program Date 2013/04/24					
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
947.0	9,535.0	Archer MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
947.0	0.60	218.70	947.0	-3.9	-3.1	3.8	0.06	0.06	0.00	
First Archer MWD Survey										
1,404.0	1.00	260.00	1,403.9	-6.4	-8.5	6.4	0.15	0.09	9.04	
1,861.0	0.60	300.60	1,860.9	-5.9	-14.5	5.8	0.15	-0.09	8.88	
2,318.0	0.60	271.30	2,317.9	-4.6	-19.0	4.5	0.07	0.00	-6.41	
2,774.0	0.70	233.30	2,773.8	-6.2	-23.6	6.1	0.10	0.02	-8.33	
3,229.0	1.50	38.80	3,228.8	-3.3	-22.1	3.1	0.48	0.18	36.37	
3,685.0	1.10	56.80	3,684.7	3.8	-14.7	-3.9	0.12	-0.09	3.95	
4,142.0	0.40	93.30	4,141.7	6.1	-9.4	-6.2	0.18	-0.15	7.99	

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Site:	Sec 12-T34S-R20W	MD Reference:	WELL @ 1813.0usft (Original Well Elev)
Well:	Anita 3420 2-12H/ Job #04186-431-22/ Lariat 41	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,270.0	0.50	73.70	4,269.6	6.2	-8.4	-6.3	0.14	0.08	-15.31
4,324.0	1.40	131.10	4,323.6	5.9	-7.7	-5.9	2.23	1.67	106.30
4,354.0	3.70	175.20	4,353.6	4.7	-7.4	-4.7	9.55	7.67	147.00
4,384.0	6.80	180.20	4,383.5	1.9	-7.3	-2.0	10.44	10.33	16.67
4,414.0	9.90	181.90	4,413.2	-2.4	-7.4	2.4	10.36	10.33	5.67
4,445.0	12.60	181.60	4,443.6	-8.5	-7.6	8.4	8.71	8.71	-0.97
4,475.0	15.20	183.10	4,472.7	-15.7	-7.9	15.6	8.75	8.67	5.00
4,505.0	17.70	183.80	4,501.4	-24.2	-8.4	24.1	8.36	8.33	2.33
4,536.0	19.80	181.90	4,530.8	-34.1	-8.9	34.1	7.05	6.77	-6.13
4,566.0	21.80	179.80	4,558.8	-44.8	-9.0	44.7	7.11	6.67	-7.00
4,597.0	23.90	179.40	4,587.4	-56.8	-8.9	56.7	6.79	6.77	-1.29
4,627.0	25.50	179.40	4,614.7	-69.3	-8.8	69.3	5.33	5.33	0.00
4,657.0	27.20	179.40	4,641.5	-82.7	-8.6	82.6	5.67	5.67	0.00
4,688.0	29.30	178.80	4,668.9	-97.3	-8.4	97.3	6.84	6.77	-1.94
4,718.0	31.20	178.70	4,694.8	-112.4	-8.1	112.4	6.34	6.33	-0.33
4,748.0	32.60	179.80	4,720.2	-128.3	-7.9	128.2	5.05	4.67	3.67
4,779.0	32.90	180.40	4,746.3	-145.1	-7.9	145.0	1.43	0.97	1.94
4,809.0	33.60	179.10	4,771.4	-161.5	-7.8	161.4	3.33	2.33	-4.33
4,839.0	35.10	178.80	4,796.2	-178.4	-7.5	178.4	5.03	5.00	-1.00
4,870.0	37.10	178.70	4,821.2	-196.7	-7.1	196.6	6.45	6.45	-0.32
4,900.0	38.70	178.10	4,844.9	-215.1	-6.6	215.1	5.47	5.33	-2.00
4,930.0	40.10	177.90	4,868.1	-234.1	-5.9	234.1	4.69	4.67	-0.67
4,961.0	41.60	177.20	4,891.5	-254.4	-5.1	254.4	5.06	4.84	-2.26
4,991.0	43.70	177.10	4,913.6	-274.7	-4.1	274.7	7.00	7.00	-0.33
5,022.0	46.10	177.20	4,935.5	-296.5	-3.0	296.5	7.75	7.74	0.32
5,052.0	47.30	177.30	4,956.1	-318.4	-1.9	318.3	4.01	4.00	0.33
5,083.0	48.60	177.20	4,976.9	-341.3	-0.8	341.3	4.20	4.19	-0.32
5,113.0	49.00	177.20	4,996.6	-363.9	0.3	363.9	1.33	1.33	0.00
5,143.0	49.10	176.80	5,016.3	-386.5	1.5	386.5	1.06	0.33	-1.33
5,174.0	49.30	176.60	5,036.6	-409.9	2.8	410.0	0.81	0.65	-0.65
5,204.0	49.40	176.80	5,056.1	-432.7	4.1	432.7	0.61	0.33	0.67
5,235.0	49.10	176.80	5,076.3	-456.1	5.4	456.1	0.97	-0.97	0.00
5,265.0	49.00	176.60	5,096.0	-478.7	6.7	478.8	0.60	-0.33	-0.67
5,295.0	49.20	176.50	5,115.6	-501.4	8.1	501.4	0.71	0.67	-0.33
5,326.0	51.60	177.90	5,135.4	-525.2	9.3	525.3	8.49	7.74	4.52
5,356.0	54.80	179.70	5,153.4	-549.2	9.8	549.3	11.70	10.67	6.00
5,387.0	57.80	180.40	5,170.6	-575.0	9.7	575.1	9.86	9.68	2.26
5,417.0	60.70	181.20	5,185.9	-600.8	9.4	600.8	9.93	9.67	2.67
5,447.0	64.10	181.90	5,199.8	-627.4	8.6	627.4	11.52	11.33	2.33
5,478.0	66.90	181.60	5,212.6	-655.6	7.8	655.6	9.08	9.03	-0.97
5,508.0	69.70	181.00	5,223.7	-683.4	7.2	683.5	9.52	9.33	-2.00
5,538.0	72.90	180.50	5,233.4	-711.8	6.8	711.9	10.78	10.67	-1.67

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Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,569.0	75.80	180.00	5,241.7	-741.7	6.7	741.7	9.48	9.35	-1.61
5,599.0	78.30	179.80	5,248.4	-770.9	6.7	770.9	8.36	8.33	-0.67
5,630.0	80.90	180.30	5,254.0	-801.4	6.7	801.4	8.54	8.39	1.61
5,665.0	84.20	180.80	5,258.6	-836.1	6.3	836.1	9.53	9.43	1.43
5,768.0	90.10	180.80	5,263.7	-938.9	4.9	938.9	5.73	5.73	0.00
5,799.0	91.20	180.60	5,263.3	-969.9	4.5	969.9	3.61	3.55	-0.65
5,830.0	92.20	179.90	5,262.4	-1,000.9	4.4	1,000.9	3.94	3.23	-2.26
5,860.0	90.50	179.90	5,261.7	-1,030.9	4.5	1,030.9	5.67	-5.67	0.00
5,890.0	90.40	179.40	5,261.5	-1,060.9	4.6	1,060.9	1.70	-0.33	-1.67
5,912.0	89.60	179.40	5,261.5	-1,082.9	4.9	1,082.9	3.64	-3.64	0.00
5,943.0	88.90	178.70	5,261.9	-1,113.9	5.4	1,113.9	3.19	-2.26	-2.26
5,973.0	88.80	178.20	5,262.5	-1,143.9	6.2	1,143.9	1.70	-0.33	-1.67
6,065.0	89.60	178.00	5,263.8	-1,235.8	9.2	1,235.8	0.90	0.87	-0.22
6,155.0	91.20	178.80	5,263.1	-1,325.8	11.8	1,325.8	1.99	1.78	0.89
6,247.0	90.20	179.30	5,262.0	-1,417.7	13.3	1,417.8	1.22	-1.09	0.54
6,337.0	90.60	179.60	5,261.4	-1,507.7	14.1	1,507.8	0.56	0.44	0.33
6,428.0	90.30	178.50	5,260.7	-1,598.7	15.7	1,598.8	1.25	-0.33	-1.21
6,520.0	88.50	178.70	5,261.6	-1,690.7	17.9	1,690.8	1.97	-1.96	0.22
6,611.0	88.80	179.40	5,263.8	-1,781.6	19.4	1,781.7	0.84	0.33	0.77
6,708.0	91.00	179.70	5,264.0	-1,878.6	20.2	1,878.7	2.29	2.27	0.31
6,802.0	91.30	180.40	5,262.1	-1,972.6	20.1	1,972.7	0.81	0.32	0.74
6,897.0	88.50	180.60	5,262.2	-2,067.6	19.3	2,067.7	2.95	-2.95	0.21
6,992.0	90.60	180.10	5,263.0	-2,162.6	18.7	2,162.7	2.27	2.21	-0.53
7,086.0	90.90	181.10	5,261.7	-2,256.6	17.7	2,256.6	1.11	0.32	1.06
7,181.0	88.40	181.90	5,262.3	-2,351.5	15.2	2,351.6	2.76	-2.63	0.84
7,275.0	87.00	181.50	5,266.1	-2,445.4	12.4	2,445.4	1.55	-1.49	-0.43
7,370.0	86.30	180.80	5,271.7	-2,540.2	10.5	2,540.3	1.04	-0.74	-0.74
7,464.0	86.50	179.90	5,277.6	-2,634.0	9.9	2,634.1	0.98	0.21	-0.96
7,559.0	89.70	178.40	5,280.7	-2,729.0	11.4	2,729.0	3.72	3.37	-1.58
7,653.0	87.90	176.60	5,282.7	-2,822.9	15.5	2,822.9	2.71	-1.91	-1.91
7,748.0	90.50	177.20	5,284.0	-2,917.7	20.6	2,917.8	2.81	2.74	0.63
7,842.0	92.20	179.00	5,281.8	-3,011.6	23.7	3,011.7	2.63	1.81	1.91
7,936.0	93.90	178.10	5,276.8	-3,105.4	26.1	3,105.5	2.05	1.81	-0.96
8,031.0	91.00	178.80	5,272.7	-3,200.3	28.6	3,200.4	3.14	-3.05	0.74
8,125.0	90.90	180.00	5,271.2	-3,294.3	29.6	3,294.4	1.28	-0.11	1.28
8,220.0	87.10	180.90	5,272.8	-3,389.3	28.9	3,389.4	4.11	-4.00	0.95
8,314.0	84.50	180.70	5,279.7	-3,483.0	27.6	3,483.1	2.77	-2.77	-0.21
8,409.0	86.70	180.20	5,287.0	-3,577.7	26.8	3,577.8	2.37	2.32	-0.53
8,503.0	88.80	179.00	5,290.7	-3,671.6	27.5	3,671.7	2.57	2.23	-1.28
8,598.0	90.00	178.80	5,291.7	-3,766.6	29.3	3,766.7	1.28	1.26	-0.21
8,692.0	92.20	178.40	5,289.9	-3,860.5	31.6	3,860.7	2.38	2.34	-0.43
8,724.0	92.40	178.00	5,288.6	-3,892.5	32.6	3,892.6	1.40	0.63	-1.25
8,755.0	92.70	178.00	5,287.2	-3,923.4	33.7	3,923.6	0.97	0.97	0.00

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Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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8,787.0	93.30	177.70	5,285.5	-3,955.4	34.9	3,955.5	2.10	1.88	-0.94	
8,818.0	92.60	177.30	5,283.9	-3,986.3	36.2	3,986.5	2.60	-2.26	-1.29	
8,849.0	89.20	178.60	5,283.5	-4,017.3	37.3	4,017.4	11.74	-10.97	4.19	
8,881.0	87.90	178.80	5,284.3	-4,049.3	38.1	4,049.4	4.11	-4.06	0.63	
8,912.0	88.00	178.80	5,285.4	-4,080.2	38.7	4,080.4	0.32	0.32	0.00	
8,944.0	88.20	178.90	5,286.4	-4,112.2	39.4	4,112.4	0.70	0.63	0.31	
8,976.0	89.80	180.20	5,287.0	-4,144.2	39.6	4,144.4	6.44	5.00	4.06	
9,007.0	91.60	180.20	5,286.6	-4,175.2	39.5	4,175.4	5.81	5.81	0.00	
9,039.0	91.90	179.70	5,285.6	-4,207.2	39.5	4,207.4	1.82	0.94	-1.56	
9,070.0	91.70	179.60	5,284.7	-4,238.2	39.7	4,238.3	0.72	-0.65	-0.32	
9,101.0	91.80	179.40	5,283.7	-4,269.2	40.0	4,269.3	0.72	0.32	-0.65	
9,133.0	91.90	178.70	5,282.7	-4,301.1	40.5	4,301.3	2.21	0.31	-2.19	
9,164.0	91.60	178.40	5,281.7	-4,332.1	41.3	4,332.3	1.37	-0.97	-0.97	
9,196.0	90.00	178.50	5,281.3	-4,364.1	42.2	4,364.3	5.01	-5.00	0.31	
9,227.0	88.30	178.20	5,281.7	-4,395.1	43.1	4,395.3	5.57	-5.48	-0.97	
9,259.0	87.30	178.20	5,283.0	-4,427.0	44.1	4,427.2	3.13	-3.13	0.00	
9,290.0	87.20	178.40	5,284.5	-4,458.0	45.0	4,458.2	0.72	-0.32	0.65	
9,322.0	88.40	178.40	5,285.7	-4,489.9	45.9	4,490.1	3.75	3.75	0.00	
9,354.0	88.60	179.40	5,286.5	-4,521.9	46.5	4,522.1	3.19	0.63	3.13	
9,385.0	89.90	179.20	5,286.9	-4,552.9	46.9	4,553.1	4.24	4.19	-0.65	
9,417.0	91.80	179.20	5,286.5	-4,584.9	47.3	4,585.1	5.94	5.94	0.00	
9,448.0	92.40	179.30	5,285.3	-4,615.9	47.7	4,616.1	1.96	1.94	0.32	
9,484.0	93.10	179.00	5,283.6	-4,651.8	48.3	4,652.1	2.12	1.94	-0.83	
Last Archer MWD Survey										
9,535.0	93.10	179.00	5,280.8	-4,702.8	49.2	4,703.0	0.00	0.00	0.00	
Projection to TD - PBHL Anita 2-12H										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
947.0	947.0	-3.9	-3.1	First Archer MWD Survey	
9,484.0	5,283.6	-4,651.8	48.3	Last Archer MWD Survey	
9,535.0	5,280.8	-4,702.8	49.2	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____